

FORM PTO-170
(REV 12-29-99)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

1367-4

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)

09/601375

INTERNATIONAL APPLICATION NO.

INTERNATIONAL FILING DATE

PRIORITY DATE CLAIMED

PCT/AU99/00058

January 28, 1999

January 28, 1998

TITLE OF INVENTION WASTE ASSEMBLY ALLOWING ADJUSTABLE FITMENT OF A FLOOR WASTE
OR APPLIANCE

APPLICANT(S) FOR DO/EO/US

REED SELWYN

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau). (**AS PUBLISHED**)
 - b. ☐ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☐ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). (**UNSIGNED**)
10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A **FIRST** preliminary amendment.
 - ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information: **INTERNATIONAL SEARCH REPORT**

I hereby certify that this correspondence is being deposited with the United States Postal Service "EXPRESS MAIL POST OFFICE TO ADDRESSEE" service under 37 C.F.R. 1.10 on date indicated below and is addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20234, on July 28, 2000 EXPRESS MAIL NO. EL117198702US

By:

Thomas M. Galgano, Esq.

Dated:

July 28, 2000

US APPLICATION NO. 097601375 INTERNATIONAL APPLICATION NO. PCT/AU99/00058	ATTORNEYS DOCKET NUMBER 1367-4																
17. <input checked="" type="checkbox"/> The following fees are submitted: BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) : Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$970.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$840.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$690.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$670.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) \$96.00 ENTER APPROPRIATE BASIC FEE AMOUNT =	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">CALCULATIONS</th> <th style="text-align: left;">PTO USE ONLY</th> </tr> <tr> <td style="height: 150px; vertical-align: top;"> \$ 840.00 </td> <td></td> </tr> </table>	CALCULATIONS	PTO USE ONLY	\$ 840.00													
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">CLAIMS</th> <th style="width: 25%;">NUMBER FILED</th> <th style="width: 25%;">NUMBER EXTRA</th> <th style="width: 35%;">RATE</th> </tr> <tr> <td>Total claims</td> <td>32 - 20 =</td> <td>12</td> <td>X \$18.00</td> </tr> <tr> <td>Independent claims</td> <td>6 - 3 =</td> <td>3</td> <td>X \$78.00</td> </tr> <tr> <td colspan="3">MULTIPLE DEPENDENT CLAIM(S) (if applicable)</td> <td>+ \$260.00</td> </tr> </table>		CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	Total claims	32 - 20 =	12	X \$18.00	Independent claims	6 - 3 =	3	X \$78.00	MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$260.00
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE														
Total claims	32 - 20 =	12	X \$18.00														
Independent claims	6 - 3 =	3	X \$78.00														
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$260.00														
TOTAL OF ABOVE CALCULATIONS = \$1,290.00																	
Reduction of 1/2 for filing by small entity, if applicable. A Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28). \$																	
SUBTOTAL = \$1,290.00																	
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Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property \$																	
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a. <input checked="" type="checkbox"/> A check in the amount of \$ <u>1,290.00</u> to cover the above fees is enclosed. b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>07-0130</u> . A duplicate copy of this sheet is enclosed.																	
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.																	
SEND ALL CORRESPONDENCE TO GALGANO & BURKE Federal Courthouse Building 300 Rabro Drive, Suite 135 Hauppauge, New York 11788																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">SIGNATURE</td> <td style="width: 40%;"> </td> </tr> <tr> <td colspan="2"> Thomas M. Galgano, Esq. </td> </tr> <tr> <td colspan="2">NAME</td> </tr> <tr> <td colspan="2"> <u>27,638</u> </td> </tr> <tr> <td colspan="2">REGISTRATION NUMBER</td> </tr> </table>		SIGNATURE		Thomas M. Galgano, Esq.		NAME		<u>27,638</u>		REGISTRATION NUMBER							
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REGISTRATION NUMBER																	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

DOCKET NO.: 1367-4

APPLICANT OR PATENTEE : REED SELWYN
 SERIAL or PATENT NO. :
 FILED or ISSUED :
 TITLE :



WASTE ASSEMBLY ALLOWING ADJUSTABLE FITMENT OF A
 FLOOR WASTE OR APPLIANCE

SMALL ENTITY DECLARATION

[X] FOR INDEPENDENT INVENTOR(S)

As a below-named inventor, I hereby declare that I am an independent inventor who (1) has not assigned, granted, conveyed, or licensed, and (2) is under no obligation under contract or law, to assign, grant, convey, or license, any rights in the invention, to any person who could not likewise be classified as an independent inventor if that person had made the invention, or to any concern which would not qualify as a small business concern or a nonprofit organization, as defined in 37 CFR 1.9.

[] FOR SMALL BUSINESS CONCERN

I hereby declare that _____ is a business concern which qualifies as a small business concern as defined in §1.9(d) - namely, (1) whose number of employees, including those of its affiliates, does not exceed 500 persons; and (2) which has not assigned, granted, conveyed, or licensed, and is under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who could not be classified as an independent inventor if that person had made the invention, or to any concern which would not qualify as a small business concern or a nonprofit organization under this section; and that the exclusive rights to the invention have been conveyed to and remain with the above-identified small business concern.

I further declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful, false statements and the like, so made, are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful, false statements may jeopardize the validity of the patent application or any patent issuing thereon.

Each of the undersigned hereby grants the firm of **GALGANO & BURKE**, U.S. Federal Courthouse Building, 300 Rabro Drive, Hauppauge, New York 11788, U.S.A., the power to insert in this Small Entity Declaration any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for filing and acceptance of this Declaration.

INVENTOR(S)

Reed Selwyn

Name: REED SELWYN

Date: *14-08-2000*

Name:

Date:

SMALL BUSINESS CONCERN:

By _____

Name: _____

Title: _____

Date: _____

09501375:092100

PATENT

DOCKET NO.: 1367-4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT : REED SELWYN
SERIAL NO. :
FILED :
TITLE : WASTE ASSEMBLY ALLOWING ADJUSTABLE FITMENT OF
A FLOOR WASTE OR APPLIANCE

PRELIMINARY AMENDMENT

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Dear Sir:

Preliminary to the initial Office Action, please amend
the above-identified application as follows:

IN THE CLAIMS

Please amend the following claims:

Claim 3, line 1, please delete "claims 1 or 2" and
insert, in place thereof, --claim 1--.

Claim 10, line 1, please delete "claim 8 or 9" and
insert, in place thereof, --claim 8--.

09/601375-092100

Claim 15, line 1, please delete "claim 13 or 14" and insert, in place thereof, --claim 13--.

Please add the following new claims:

--30 A waste assembly according to claim 2 wherein the assembly further comprises an insert which locates on said bearing surface of said waste body and receives said grate or appliance outlet in a preselected location in or on the insert.--

--31 A waste assembly according to claim 9 wherein the grate or appliance outlet may be selectively positioned in said insert to avoid or intersect with a joint or joints in floor cladding.--

--32 A waste assembly according to claim 14 wherein the waste body further comprises an annular peripheral terminating in an annular flange.--

REMARKS

By this Preliminary Amendment, the claims have been amended so as to remove the multiple dependency of certain claims and avoid the surcharge associated therewith.

00601375-092400

Accordingly, entry of the foregoing amendment is respectfully requested.

Respectfully submitted,

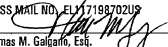


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P:\GAB#2\1367\4\PRELIMIN.AMD

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By: 
Thomas M. Galgano, Esq.

Dated: July 28, 2000

**WASTE ASSEMBLY ALLOWING ADJUSTABLE FITMENT OF A
FLOOR WASTE OR APPLIANCE**

The present invention relates to drainage apparatuses and more particularly to a waste assembly for use with waste generating appliances and as a surface drain including a reservoir which accommodates a floor waste or waste discharge line from an appliance in a selected location within the periphery of the reservoir.

PRIOR ART

There are in existence a wide variety of surface drains and floor wastes and waste outlets associated with appliances which link directly or indirectly with plumbing infrastructure in a building. These are found in public and private installations alike and are usually positioned at a low point in the drainage network. Generally in the case of floor drains and wastes these include a grate which finishes the assembly and allows ingress of surface waste water.

One such floor waste is disclosed in German specification DE 4115638. This document discloses a metal drain gutter inserted in a concrete or plaster floor and includes a grill which covers the opening but allows the waste water to enter the gutter. This floor waste includes a well or receptacle defined by a profiled structure including shoulder regions which receive the grate.

Usually, floor wastes are positioned to align with under floor plumbing so there is a significant predetermined restriction on the scope of available movement of above floor fittings to accommodate the position of plumbing and floor cladding such as floor tiling. As floor wastes and appliances must traditionally be fitted in with floor cladding this usually requires an adjustment of the grate or appliance outlet particularly where tiles and

the like are used (as is common in wet areas) to suit the floor cladding. Adjustment of the waste or appliance outlet to match drainage plumbing infrastructure has in the past been inhibited once underfloor drainage plumbing is in place as there is almost no flexibility in positioning of above floor waste generating appliances or floor wastes.

According to prior art methods an installer has two main options for symmetric installation of floor tiles particularly with the inherent restriction of non adjustability of floor grates. The first alternative involves setting the tiles to room dimensions in which case desired alignment with the grate may be a matter of luck or may not occur. The second involves setting the tiles to suit the position of the grate in which case the fit to the room layout is sacrificed.

According to the prior art the final position of a floor waste is dictated by the underfloor plumbing infrastructure , but the floor cladding must then be adjusted to suit the waste position which can often result in less than aesthetically pleasing results . In conventional drains the inlet orifice (or grate) is substantially in alignment with the drainage pipe and it is this requirement which dictates the final position of the grate.

Another prior art surface drain is disclosed in U S patent 2182 795 . This patent teaches a waste having a wide mouthed waste water receiving receptacle described as a drain body which accommodates a removable grate on a continuous recessed retaining step in the drain body . The drain body is sized to also receive a removable strainer bucket which catches debris and enabling periodic cleaning of the drain as well as preventing debris entering the drain system . As with most known floor waste arrangements , the positioning of this waste and more particularly the grate is dictated by the set position of the plumbing

infrastructure underneath .

U. K. patent specification 1208 833 discloses a fluid waste gulley including a hopper which collects darinage water via top members which might be a grate or plate with an inlet orifice which seat on a ledge on the hopper . The grate or inlet plate disclosed in that patent have their floor positions dictated by the configuration and position of the hopper. However the arrangement described in this patent is directed primarily to the provision of a gulley adaptable to various layouts in rainwater and surface water systems. The top members of the gulley assembly are not intended as flooring and the assembly itself is primarily intended for stormwater and surface water. The arrangement described in that patent allows interchangeability of two top members but is not intended as a waterproofing solution. Nor does it teach versatility of fitment at the distal end of a downpipe. In fact the disclosure teaches away from the present invention. For instance, the disclosure teaches interchangeable members creating alternative layouts.

Furthermore, the arrangement described in the UK patent is directed to an objective entirely different from that of the present invention in all its forms.

Thus , in the prior art floor waste arrangements there is almost no flexibility as to the location of the grate once the underfloor plumbing infrastructure is set and this is usually completed first.

This absence of flexibility means that a waste or appliance can only be located where it will align with an inlet to the main drainage plumbing and that subsequent work such as floor tiling must accommodate the waste or appliance outlet in that the tiling patterning is in most cases interrupted such that the result is aesthetically unacceptable.

INVENTION

The present invention seeks to overcome the aforesaid difficulties inherent in the prior art by providing an assembly for receiving a floor grate or waste generating appliance outlet allowing selective positioning of a grate associated with the assembly such that whilst the plumbing infrastructure may be pre-set the installer of the assembly has significant flexibility in the positioning of the grate or outlet of an appliance within the limits of the mouth of the assembly.

This allows floor cladding such as tiles to be located according to a selected pattern and not dictated by the positioning of the grate. Thus the grate can be positioned selectively to accommodate tile joins by avoiding them altogether or intersecting with them. This also allows selective positioning of a waste generating appliance or floor grate without requiring alignment between said grate or appliance outlet and an inlet to drainage plumbing infrastructure.

The present invention also seeks to provide an alternative grate assembly suitable for use with the above waste assembly.

According to another aspect, the present invention provides a waste body for use with an assembly for receiving a floor grate or waste generating appliance outlet which connects with an inlet to drainage plumbing in a building; thereby obviating the necessity for the floor grate or outlet of said appliance to align with said inlet.

In one broad form the present invention comprises a floor or ground surface waste assembly including ; a waste body having a waste collecting receptacle; the receptacle including an open mouth for receiving waste products from a floor grate or appliance; an

outlet in communication with said mouth for connecting the waste assembly to an inlet of a waste drainage line for eventual discharge of said waste, said waste body also including a bearing surface extending at least partially about the periphery of said waste body and which supports directly or indirectly a grate or appliance outlet ; such that the grate or appliance outlet may be positioned at any location within the periphery of the waste body thereby allowing the grate or appliance outlet to be selectively located to accommodate a predetermined pattern , layout or configuration of floor or ground cladding .

According to a preferred embodiment the waste assembly further comprises an insert which locates on said bearing surface of said waste body and receives said grate or appliance outlet in a preselected location in or on the insert.

The insert which is removeable prior to installation is fixed permanently once the waste assembly is fully installed as an element of flooring.

The position may be selected according to the positioning of the floor cladding such as tiles and the like to achieve the most aesthetically pleasing appearance. Additionally the mouth of the waste body allows latitude for selective positioning of an appliance outlet.

According to a preferred embodiment the insert functions as part of a flooring structure.

In its broadest form the present invention comprises; a waste assembly for receiving and discharging waste from a floor grate or waste generating appliance and including a waste body having an inlet mouth which receives an insert and which is in communication with an outlet on said waste body for discharging said waste ; wherein said inlet mouth is proportioned to allow selective positioning of a grate or appliance outlet within said insert within the limits of the periphery of the waste body such that said

selective positioning of said grate or appliance outlet obviates the necessity for said appliance outlet or grate to align with or be directly connected to said outlet or an inlet of underfloor drainage plumbing.

These arrangements have the added advantage of preventing unwanted interruption to a predetermined floor cladding pattern, layout or configuration. Preferably the grate or appliance outlet may be selectively positioned to avoid or alternatively intersect with a join or joins in said floor cladding.

In another form the present invention comprises; a waste body for use with an assembly for collection and discharge of waste from a waste generating appliance or floor waste, the waste body comprising an open mouth reservoir for receiving said waste and including an outlet for discharging said waste received in said reservoir, the waste body further including a bearing surface which receives an insert proportioned to cover said mouth, the insert adapted to receive a grate or outlet of a waste generating appliance positioned in the insert such that the outlet of the waste body connects to and aligns with an inlet to underfloor drainage plumbing; wherein the dimension of said mouth is such that said grate or appliance outlet need not align with said inlet to said underfloor plumbing thereby allowing flexibility in the positioning of said floor grate or appliance within the limits of a periphery of said waste body.

Preferably, the insert is set in the waste body with clearance for seepage via said shoulder. In another form the present invention comprises: a waste assembly for receiving and discharging waste from a waste producing appliance, surface drain or the like in communication with the assembly; the assembly including; a waste body having an open

mouth defining a recess for receiving said waste , and an outlet capable of connection to an inlet of drainage plumbing infrastructure allowing discharge of said waste ; a closure member supported by the waste body for closing said mouth and which receives said surface drain or an outlet of said waste producing appliance ; wherein the closure is proportioned such that an installer of said surface drain or outlet of said appliance may position said drain or appliance outlet at any selected position bounded by the periphery of said waste body thereby obviating the need for direct connection and /or axial alignment between said surface drain or appliance outlet and said plumbing infrastructure.

In another broad form the present invention comprises:

a waste assembly for connecting an appliance outlet or floor drain to plumbing infrastructure of a building; the waste assembly comprising; a waste body having a wide mouth and defining a reservoir which includes an outlet which connects said waste body to said plumbing infrastructure , a shoulder region over said waste body for receiving a closure member closing said mouth and which receives via an opening formed therein an appliance outlet or floor drain; wherein said closure member is of sufficient area to allow a selection of the position of said appliance outlet or drain anywhere within the area defined by the periphery of the waste body such that the position in the closure of the appliance outlet or floor drain is not dictated by direct axial alignment of said appliance outlet or floor drain with said plumbing infrastructure.

Preferably, the closure member sits proud of said shoulder on projections thereon and forms part of floor structure.

In another form the present invention comprises: a grate assembly comprising:

a retaining body which engages and is supported by flooring into which the grate assembly is inserted; a releasable cover retained in said retaining body and which allows waste to flow along and about a surface of said cover; a perforated strainer plate which allows passage of waste; an overflow tower which receives said waste in the event of blockage of said perforated strainer plate; wherein removal of said releasable cover allows access to said strainer for cleaning purposes.

According to one embodiment, the grate assembly is clamped with a lock nut to a prefabricated shower tray. In another embodiment the assembly is set in an adhesive or cementitious material. A thread on an outer surface of the retaining body facilitates anchorage of the assembly. Preferably, the closure comprises a roof including a contoured surface conducive to drainage and leg members supporting said roof and which engage a recess in said retaining body. Preferably, said legs bear on an upper surface of said strainer plate and are releasable from said recess in said retaining body by rotation . Preferably removal of said cover allows access to said upper surface of said strainer plate for cleaning purposes.

Preferably, said overflow tower comprises a cylindrical body of predetermined height which terminates short of an underside of said cover. Said overflow tower operates in the event that debris blocks perforations on said strainer plate.

DETAILED DESCRIPTION OF EMBODIMENTS OF THE INVENTION.

The present invention will now be described in more detail according to a preferred but non limiting embodiment and with reference to the accompanying drawings wherein;

Figure 1 shows a perspective view of a preferred embodiment of a waste body for use in

the waste assembly according to the invention ;

Figure 2 shows a sectional view through a floor mounted waste assembly according to a preferred embodiment of the invention .

Figure 3 shows a cross sectional elevation of an alternative waste body preferably for use where a waste generating appliance is connected to a waste assembly;

Figure 4 shows a perspective view of the waste body of figure 3

Figure 5 shows a cross sectional elevation of a waste body of a type similar to that in figure 3 this time with a side outlet;

Figure 6 shows a perspective view of the waste body of figure 5 according to a preferred embodiment.

Figure 7 shows a cross sectional elevation of a grate assembly according to a preferred embodiment;

Figure 8 shows an exploded view of the grate assembly of figure 7 with corresponding numbering.

Referring to Figure 1 there is shown a perspective view of a waste body 1 for use with a waste assembly (to be described with reference to figure 2) according to a preferred embodiment of the invention . Body 1 comprises a receptacle 2 having an open mouth 3 which receives waste water from an outlet of an appliance or floor grate. The receptacle further comprises an outlet or outlets which engages drainage plumbing (not shown) of a building to discharge waste received in receptacle 2.

Waste body 1 according to one embodiment includes an outlet 4 in base 5 or alternatively, an outlet 6 in wall 7 of base 5. The location of the outlet in waste body 1 will

be chosen according to the location and attitude of the drainage plumbing inlet to which the waste body will be attached. Body 1 further comprises a shoulder 8 including a bearing surface 9 bounded by peripheral wall 10 terminating in peripheral flange 11. Waste body 1 may be any one of a variety of shapes such as but not limited to circular, triangular or rectangular according to design requirements. Also waste body 1 may be set into concrete or a sand bed.

Referring to Figure 2 there is shown a cross sectional view of a waste assembly 12 according to a preferred embodiment incorporating the waste body 1 of Figure 1.

Waste body 1 is shown located in an opening 13 in floor stratum 14 and engages floor surface 15 via peripheral flange 11. Underside surface 16 of shoulder 8 bears on surface 16 of support member 17 providing increased stability. Waste body 1 receives via bearing surface 9 insert 18 which spans the gap defined by peripheral wall 10 closing mouth opening 3 to waste body 1 but with clearance for seepage between said insert 18 and shoulder 8. Insert 18 acts as part of flooring and provides a bearing surface 19 for cladding which may typically comprise floor tiles 20 laid over an adhesive, waterproof membrane or cement render 21. Due to the area of insert 18 an installer of a grate or appliance outlet has flexibility as to the location in insert 18 of the grate or outlet which might ideally be positioned in an opening 22 to either intersect with or avoid joins in tiles 20. Waste assembly 12 of figure 2 further comprises according to one embodiment grate assembly 23 which locates in opening 22 of floor insert 18.

Grate assembly 23 includes grate body 24 preferably defining a cylindrical wall and includes shoulder 25 having a bearing surface 26 which releasably receives and supports

insert 27. Insert 27 includes perforations (not shown) which allow passage of fluid waste from surface 28 into reservoir 2.

The location in a floor stratum of waste body 1 will be dictated by drainage plumbing which places a natural limitation on its position in a floor structure. Where plumbing infrastructure including a drainage line is installed after a location is selected for the waste body this allows increased latitude for the selection of the waste body's location . This latitude is however diminished where plumbing infrastructure is installed first such as in concrete slab construction. In the case of prior art waste assemblies this effective pre determination of position prevents any possibility of fine adjustments to a floor waste or appliance outlet during installation as these must align accurately with a waste drainage inlet. This restriction will also inhibit the ability to position PC items such as a toilet pan, bidet, bath or premoulded shower tray to optimise finish..

Previously, it was essentially a matter of luck where a floor waste was positioned relative to floor cladding material such as tiles to achieve optimum finish. The random position of a floor waste could , should the position be undesirable , lead to increased work for a plumber and /or tiler and a poor finish . For instance, should the grate find itself at a conjunction of tiles up to four tiles may require cutting by the tile layer which could lead to an unsightly finish .

Alternatively, it may be desirable to locate a grate or appliance outlet at a conjunction so each tile adjacent to the floor grate is cut symmetrically relative to the grate .

In an alternative arrangement, the grate position can be selected to fall within the periphery of a tile . Similarly, with other forms of wet area cladding the grate position can

be preselected anywhere within the limits of the peripheral walls of the waste body. Thus, the larger the mouth of the waste body the greater the flexibility of movement. One added advantage of the broad mouth waste body 1 is the larger capture area for fluid seepage percolating through the floor cladding or its supporting layer in the region of the grate assembly 23 near or within the peripheral wall 10 of waste body 1.

This overcomes what is a common problem in prior art waste plumbing installations, that is, leakage about the grate body such that fluid surface waste escapes capture by the drainage pipes eventually leading to rotting of the surrounding materials. Insert 18 is preferably a wet floor material such as compressed fibro with the ability to sustain load and maintain its structural integrity even under cyclic wetting and drying. Preferably, as shown in figure 2, upper surface 19 of insert 18 is lower than upper surface 15 of floor stratum 14 facilitating drainage of any seepage fluid. To ensure that seepage fluid has easy passage into receptacle 2 of waste body 1 bearing surface 9 preferably comprises projections 28 which create a gap between underside surface 29 of insert 18 and surface 9 of shoulder 8. Surface 29 of insert 18 engages projections 28 causing insert 18 to sit proud of and thus slightly spaced apart from surface 9 allowing passage through gap 22 of fluid waste eventually captured by receptacle 2. Preferably, the assembly further comprises a reinforced waterproof membrane 19a extending over and beyond insert 18 and peripheral flange 11 onto upper surface of floor 15. To ensure secure and immovable fitting of waste body 1 to flooring stratum 14 fasteners such as fastening screws 31 and 32 anchor peripheral flange 11 against floor stratum 14. The number of fastening screws will generally be dictated by an installer but as a minimum it would be expected

Waste body 1 is preferably constructed of a plastics material such as PVC or ABS generated in a mold but may also be formed from a metallic or other suitable material.

Referring to figure 3 there is shown a cross sectional elevation of a waste body 35 according to an alternative embodiment.

As previously described, the waste assembly of the present invention may be used with a floor waste assembly or a waste producing appliance which typically might be a toilet pan. Traditionally, the installation of a toilet pan necessitated accurate positioning so that pan outlet will be in alignment with an inlet to a drainage network which usually preceeds the installation of the appliance. Waste body 35 due to its unique configuration allows an installer of an appliance flexibility with respect to positioning of the waste outlet. More

particularly, the appliance outlet need not be in perfect alignment with an inlet to drainage infrastructure. This overcomes fitting problems which can arise in tight spaces or where an appliance is required to accommodate floor cladding for an optimum aesthetic result. The waste also eliminates the problem of force fitting or fudging to ensure an appliance outlet aligns with a drainage line inlet.

According to the embodiment of figure 3 waste body 35 includes reservoir 36 which receives waste via an opening 37 in closure 40. Alternatively, closure 40 may be moulded or cast in plastic or metal and may be glued into a shoulder at the periphery of the waste body.

Closure 40 may be formed in the shape of a cap with a peripheral flange. This closure may be used for appliance discharge from such items as a toilet pan, bath or premade storage tray into which the pan collar, shower or bath waste outlet is attached such that the system is closed preventing odours or back wash. In an alternative embodiment, waste body 35 may be more steeply sloped (bowl shaped) to allow for easier passage of heavier waste such as from a toilet pan. This will result in waste body 35 having an annular wall 48b terminating in an annular flange 48c.

The closure 40 may be used where there will be no applied floor loads such as at the rear of a toilet pan or under a bath or prefabricated shower. The cap may also be glued in upside down and filled with concrete or other filler in the event the waste body is subject to floor loads.

Reservoir 36 terminates in outlet 38 which will be connected to an inlet 39 to underfloor drainage plumbing. Closure 40 which is preferably a glue-on moulded plastics lid

engages peripheral shoulder 41 and seals reservoir 36. Closure 40 receives adaptor 42 which facilitates connection of a toilet pan outlet 45 to waste body 35 via opening 43 bounded by collar 44.

Closure 40 may be fabricated from plastics such as PVC plastics or other suitable material. Referring to figure 4 there is shown a perspective view of the arrangement of figure 3 with corresponding numbering.

Figure 5 shows an alternative waste assembly 46 this time with side outlet 47 attached to waste body 48. Outlet 47 engages a side inlet 49 which eventually leads to waste drainage plumbing. Waste assembly 46 otherwise operates in a similar manner to that described for waste body 35. Figure 6 shows a perspective view of the waste body of figure 5 with corresponding numbering.

Referring to figure 7 there is shown a grate assembly 50 according to a preferred embodiment providing an alternative to that shown in figure 2.

Grate assembly 50 comprises peripheral retaining body 51 which engages an opening in a floor structure or floor member and is axially retained by flange 52. Preferably engagement between body 51 and said floor structure is facilitated by an external thread 51a. External thread 51a ideally assists with bonding to floor surface material such as cement, adhesives and the like to prevent unwanted dislodgement. Preferably, a lock nut is screwed into thread 51a of retaining body 51. Body 51 is sealed against a locking nut 53 by O ring 54 to prevent ingress of floor waste between locking nut 53 and body 51.

Peripheral body 51 may be set into and flush with floor cladding such as tiles or may be fitted to a pre fabricated shower tray (not shown). There are two main alternatives for

fitting peripheral body 51. The first involves use of a lock nut and O ring used preferably in shower tray installations. The second alternative body 51 is set in a tiled or cement surface. In this case thread 51a provides a roughened surface which keys into the cement thereby avoiding prior art bonding defects.

Peripheral body 51 may be injection molded or cast. As the peripheral body 51 is sealed by locking nut 53 this will prevent leakage of waste water between the floor or shower tray and the grate assembly.

Grate assembly 50 further comprises removeable cover 54 which locates in an opening 55 in peripheral body 51. Cover 54 further comprises flanges 56 and 57 which engages respective recesses 58 and 59 of peripheral body 51 to lock cover 54 into position. Upper surface 60 of cover 54 is cambered radially allowing a slight fall from the centre of upper surface 60 to peripheral region 63. Cover 54 further includes legs 61 and 62 each terminating in respective flanges 56 and 57. The attitude of legs 61 and 62 results in the formation of an annular recess 64 between legs 61 and 62 and peripheral body 51.

Radiused curve 65 facilitates passage of waste water into recess 64. Openings between legs 61 and 62 allow passage of waste water therebetween. Grate assembly 50 further comprises strainer plate 66 which seats on shoulder 67 of peripheral body 51.

Legs 61 and 62 seat on upper surface 73 of strainer plate 66. Strainer plate 66 further comprises openings 70 through which waste water flows and an overflow tower 71 which includes handle 72 for easy removal. In use, waste water entering gap 64 eventually impacts on plate 66 and penetrates openings 70. In the event debris collects on plate 66 sufficient to block passage of waste water through openings 70 the waste water will be

discharged via overflow tower 71 into a waste pipe which is part of plumbing infrastructure. Where this build up occurs, cover 54 may be removed by rotational displacement of the flanges 56 and 57 of legs 61 and 62 away from peripheral recess 58 whereupon debris on strainer plate 66 can be accessed and removed thereby clearing openings 70. . Legs 61 and 62 as described result in four legs supporting cover 54. As an alternative multiple legs greater than or less than four may be used. As a further alternative a single pedestal support may be employed.

It will be recognised by persons skilled in the art that numerous variations and modifications may be made to the invention as broadly described herein without departing from the overall spirit and scope of the invention.

The claims defining the invention are as follows:

- 1 A floor or ground surface waste assembly for receiving floor or appliance generated waste including; a waste body defining a waste collecting receptacle; the waste body including an open mouth for receiving waste products from a floor grate or appliance; an outlet in communication with said mouth for connecting the waste assembly to a waste drainage line for eventual discharge of said waste, said waste body also including a bearing surface which is capable of supporting directly or indirectly a grate or appliance outlet ; wherein the grate or appliance outlet may be positioned at any location within the periphery of the waste body thereby allowing the grate or appliance outlet to be selectively located within a periphery of said waste body to accommodate a predetermined pattern , layout or configuration of floor or ground cladding .
- 2 A floor or ground surface waste assembly for receiving floor or appliance generated waste including; a waste body defining a waste collecting receptacle; the waste body including an open mouth for receiving waste products from a floor grate or appliance; an outlet connected to said reservoir in communication with said mouth for connecting the waste assembly to a waste drainage line for eventual discharge of said waste, said waste body also including a bearing surface extending at least partially about the periphery of said waste body and which is capable of supporting directly or indirectly a grate or appliance outlet ; wherein said mouth is proportioned to allow selective positioning of a grate or appliance outlet within said mouth within the limits of the periphery of the waste body such that said selective positioning of said grate or appliance outlet obviates the necessity for said appliance outlet or grate to align axially with or be directly connected to underfloor drainage plumbing.
- 3 A waste assembly according to claim 1 or 2 wherein the assembly further

comprises an insert which locates on said bearing surface of said waste body and receives said grate or appliance outlet in a preselected location in or on the insert.

4 A waste assembly according to claim 3 wherein said bearing surface is provided by a shoulder formed in the waste body; the bearing surface terminating in a peripheral wall defining a space in which said insert is placed said bearing surface extending at least partially about the periphery of the waste body.

5 A waste assembly according to claim 4 wherein the insert when inserted in said space in said waste body functions as part of flooring.

6 A waste assembly according to claim 5 wherein said bearing surface includes projections which engage an underside surface of said insert thereby creating a gap between said shoulder and said insert to allow passage of waste therethrough.

7 A waste assembly according to claim 6 wherein said peripheral wall terminates in a peripheral flange; wherein an underside surface engages a floor or support structure.

8 A waste assembly according to claim 7 wherein said outlet for connecting the waste body to said drainage waste line extends from a low point of said reservoir.

9 A waste assembly according to claim 8 wherein said outlet for connecting the waste body to said drainage line extends from a side wall of said reservoir.

10 A waste assembly according to claim 8 or 9 wherein the grate or appliance outlet may be selectively positioned in said insert to avoid or intersect with a join or joins in floor cladding .

11 A waste assembly according to claim 10 wherein the mouth of said waste body is square or rectangular.

12 A waste assembly according to claim 11 wherein said insert closes said mouth and receives said grate or appliance outlet.

13 An assembly according to claim 4 wherein the receptacle of said waste body is bowl shaped with said outlet downwardly depending from a low point of said bowl.

14 A waste assembly according to claim 4 wherein said receptacle of said waste body is bowl shaped with said outlet extending laterally from a wall of said waste body.

15 A waste assembly according to claim 13 or 14 wherein the waste body further comprises an annular peripheral terminating in an annular flange.

16 A waste assembly according to claim 15 wherein the mouth of said waste body is closed by a lid which receives said appliance outlet.

17 A waste assembly according to claim 16 wherein said appliance outlet extends from a toilet pan.

18 A waste assembly for receiving and discharging waste from a waste producing appliance, surface drain or the like in communication with the assembly; the assembly including; a waste body having an open mouth defining a recess for receiving said waste, and an outlet capable of connection to an inlet of drainage plumbing infrastructure allowing discharge of said waste; a closure supported by the waste body for closing said mouth and which receives said surface drain or an outlet of said waste producing appliance; wherein, the closure is proportioned such that an installer of said surface drain or outlet of said appliance may position said drain or appliance outlet at any selected position within the periphery of said waste body thereby obviating the need for direct connection and or axial alignment between said surface drain or appliance outlet and an inlet of said plumbing infrastructure.

19 A waste assembly for connecting an appliance outlet or floor drain to plumbing infrastructure of a building, the waste assembly comprising; a waste body having a wide mouth and defining a reservoir which includes an outlet which connects said waste body

to an inlet to drainage plumbing infrastructure, a closure member closing said mouth and which receives via an opening within said appliance outlet or floor drain; wherein said closure member is of sufficient area to allow a selection of the position of said appliance outlet or drain anywhere within the periphery of the waste body such that the position in the closure of the appliance outlet or floor grate is not dictated by direct axial alignment of said appliance outlet or floor drain with said inlet to drainage plumbing infrastructure.

20 A waste body for use with a waste assembly for collection and discharge of waste from a waste generating appliance or floor waste, the waste body including an open mouth receptacle for receiving said waste and an outlet for discharging said waste received in said receptacle, the waste body further including a bearing surface which receives an insert proportioned to cover said mouth, the insert adapted to receive a grate or outlet of a waste generating appliance positioned in the insert such that the outlet of the waste body connects to and aligns with an inlet to underfloor drainage plumbing whereas said grate or appliance outlet need not align with said inlet to said underfloor plumbing thereby allowing flexibility in the positioning of said floor grate or appliance.

21 In another form the present invention comprises: a grate assembly comprising: a retaining body which engages and is supported by flooring, a moulded shower tray or the like into which the grate assembly is inserted: a releasable cover retained in said retaining body and which allows waste to flow along and about a surface of said cover; a perforated strainer plate which allows passage therethrough of waste received from said surface of said cover or from said floor; an overflow tower which receives said waste in the event of blockage of said perforated strainer plate; wherein removal of said releasable cover allows access to said strainer for

cleaning purposes.

22 A grate assembly according to claim 21 wherein the closure comprises a roof including an external at least partially convex contoured outer surface conducive to runoff drainage and leg members supporting said roof and which releasably engage a recess in said retaining body.

23 A grate assembly according to claim 22 wherein said legs bear on an upper surface of said strainer plate and are releasable from said recess in said retaining body by rotation .

24 A grate assembly according to claim 23, wherein removal of said cover allows access to said upper surface of said strainer plate for cleaning purposes.

25 A grate assembly according to claim 24, wherein said overflow tower comprises a cylindrical body of predetermined height which terminates short of an underside of said cover.

26 A grate assembly according to claim 25 wherein said overflow tower operates in the event that debris blocks perforations on said strainer plate.

27 A grate assembly according to claim 26 wherein the overflow tower includes a handle for removal of said tower.

28 A grate assembly according to claim 27 wherein the retaining body includes an external thread which engages said flooring.

29 A grate assembly according to claim 28 wherein the retaining body further comprises a locking nut screwed into the thread of said retaining body to clamp and seal to an outlet of a shower tray.

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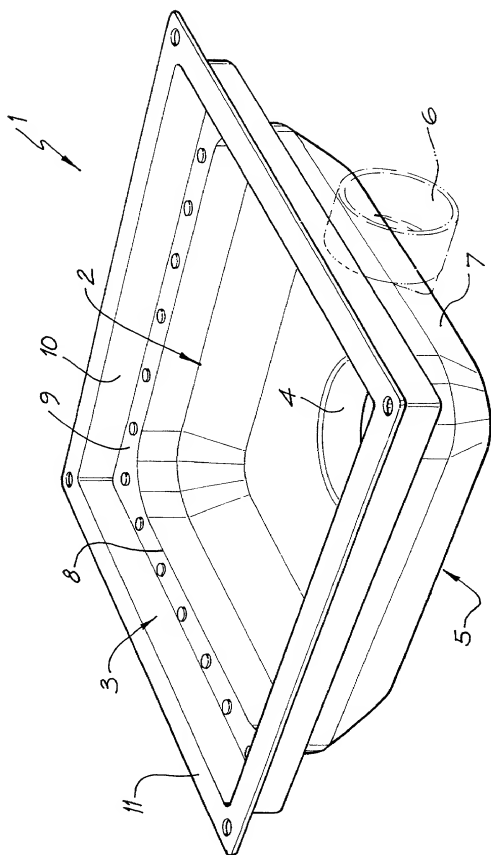


FIG. 1

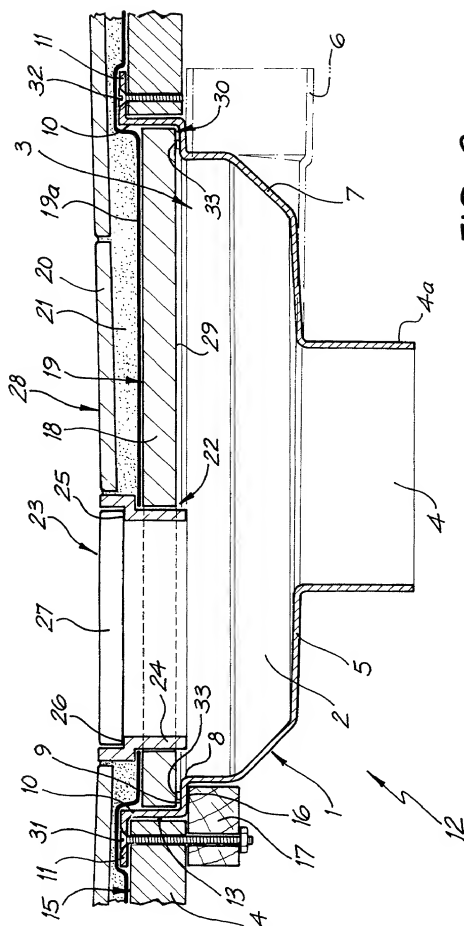
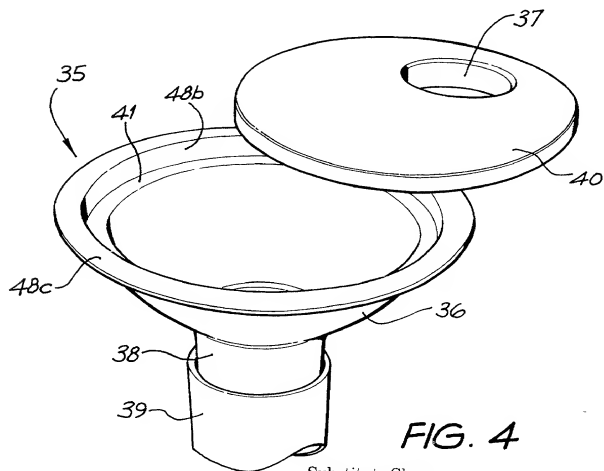
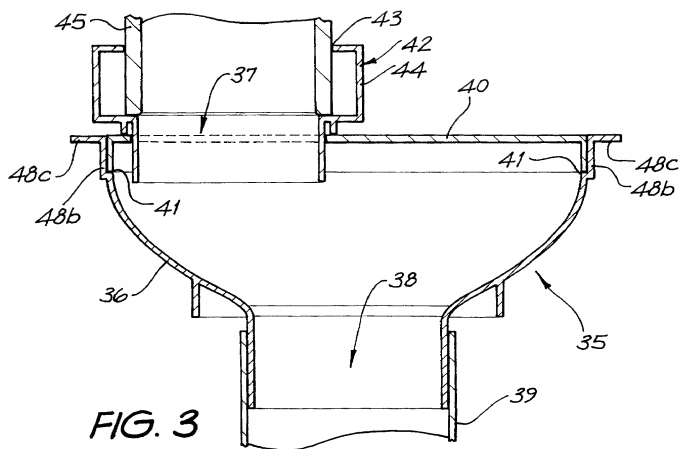


FIG. 2



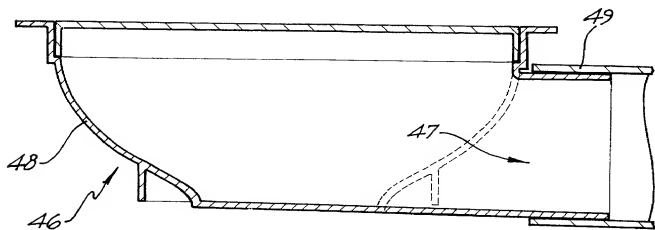


FIG. 5

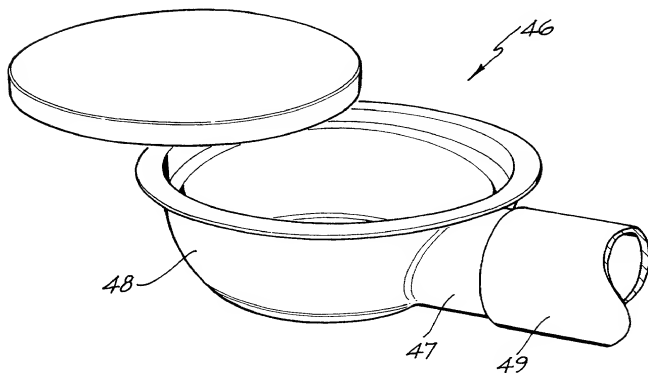


FIG. 6

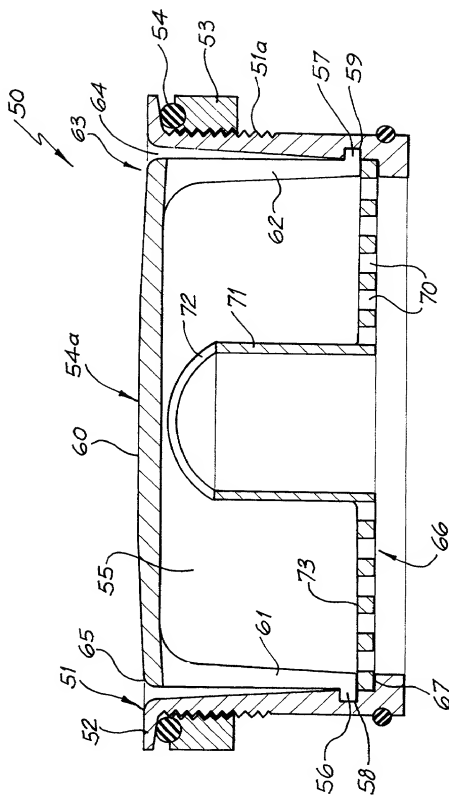


FIG. 7

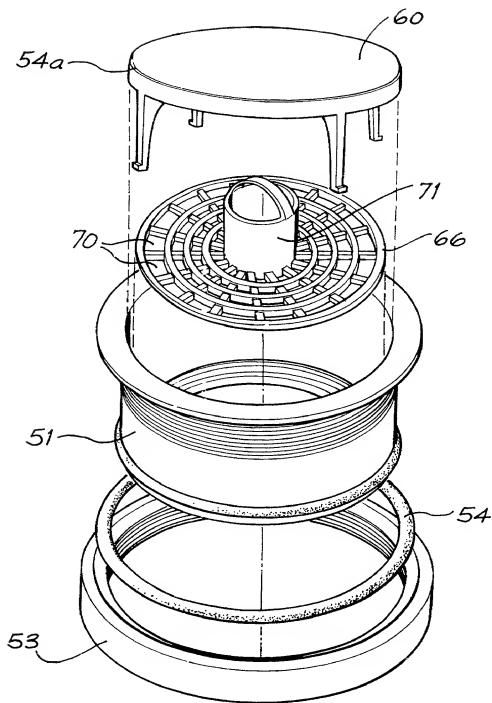


FIG. 8

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: WASTE ASSEMBLY ALLOWING ADJUSTABLE FITMENT OF A FLOOR WASTE OR APPLICANCE

the specification of which (check only one item below):

☐ is attached hereto.

☐ was filed as United States application

Serial No. _____

on _____,

and was amended

on _____ (if applicable).

☒ was filed as PCT international application

Number PCT/AU99/00058

on JULY 28, 2000,

and was amended under PCT Article 19

on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability of this application as defined in Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. 119:

COUNTRY (if PCT, indicate "PCT")	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 35 USC 119
AUSTRALIA	PCT/AU99/00058	JANUARY 28, 1999	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY
(Includes Reference to PCT International Applications)

ATTORNEY'S DOCKET NUMBER
1367-4

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the ~~120~~ provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. 120:

U.S. APPLICATIONS			STATUS (Check One)		
U.S. APPLICATION NUMBER	U.S. FILING DATE		PATENTED	PENDING	ABANDONED
PCT APPLICATIONS DESIGNATING THE U.S.					
PCT APPLICATION NO.	PCT FILING DATE	U.S. SERIAL NUMBERS ASSIGNED (if any)			

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (List name and registration numbers):

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4	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
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6	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY
7	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
8	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
9	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

SIGNATURE OF INVENTOR 201 <i>[Signature]</i>	SIGNATURE OF INVENTOR 202	SIGNATURE OF INVENTOR 203
DATE 10th August 2000	DATE	DATE